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ABSTRACT

An 18-month study of the development of communicative competence in three Kaluli children from Papua, New Guinea, shows that Kaluli children use pragmatically appropriate word order before they correctly indicate "agent" by casemarking. In Kaluli, pragmatic concerns determine word order. The noun which the speaker intends to focus on is placed immediately before the sentence-final verb. There are two casemarking systems. The ergative system, used in Object-Subject-Verb (OSV) sentences, requires that the subject of a transitive verb receive the ergative case marker, and the object of transitive and the subject of intransitive verbs receive the absolutive case marker. The neutral/ergative system, used in SOV sentences, calls for a neutral case marking for Agent and Object. Findings of the study show that in OSV sentences, correct word order for expressing focus preceded casemarking in the children's speech. Once the marking was acquired, children could contrast agent focus within and across turns at talk by word order and casemarking. Marking in SOV sentences was acquired in three stages: (1) no agent marking, (2) incorrect ergative marking of sentence-initial agents, and (3) correct restriction of ergative marking to OSV sentences. By 32 months, all three children were controlling word order and casemarking, the former preceding the latter. (PJM)

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A DEVELOPMENTAL STUDY OF WORD ORDER AND
CASEMARKING IN AN ERGATIVE LANGUAGE¹Bambi B. Schieffelin
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In this paper I will describe two related phenomena in young Kaluli children's conversation: the acquisition and use of pragmatically appropriate word order and the development of correct agentive casemarking. I will demonstrate that Kaluli children, from an early age, use word order in pragmatically appropriate ways before they correctly indicate "agent" by using grammatical devices, such as casemarking.

The children whose language development I shall be discussing come from the Southern Highlands of Papua New Guinea. They belong to the Bosavi people, a small-scale, traditional, nonliterate society. Kaluli is spoken monolingually by approximately 1200 people who live in small villages of 70-100 individuals.

The data come from an 18-month field study on the development of communicative competence. For the present analysis I have examined the longitudinal tape-recorded and transcribed conversations I collected from 3 Kaluli children. At the beginning of the study these children, 2 boys and a girl, were about 24 months old. Samples were collected at 4-6 week intervals and consisted of an average of over 3 hours per sample. The language was recorded in the every-day familial settings in which it was being learned, so as to understand the contexts of language acquisition as well as the acquisition process itself. The language that comprises these samples therefore is naturalistic and spontaneous and captures the communication of the child with those people with whom he or she regularly interacted. Extensive contextual and ethnographic notes were taken both during and after recordings. These were used to understand and interpret the meanings of both utterances and the meanings of interactions.

In several important ways Kaluli resembles other non-Austronesian languages that have been described in Papua New Guinea. It is a verb-final language, marking case relations postpositionally on nouns. Verb morphology is complex and often irregular. Information about transitive and intransitive subjects is cross-referenced in the verb through agreement. This holds for all tenses except the past and habitual, which have single forms. In terms of marking the semantic functions of nouns, Kaluli has a mixed word order and inflectional system. That is, sometimes word order, and other times casemarking is used to indicate semantic functions. Casemarking on nouns follows a semantically motivated, split ergative system. Before presenting the child data, I would like to describe some linguistic facts drawn from adult conversational data. I will start with the pragmatics of word order and then describe casemarking.

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Kaluli has only 2 allowable word orders, OSV and SOV. The preverbal position, that is the position directly preceding the verb, indicates what is in focus, what is "the issue," or what is being contrasted in discourse. In other words, the preverbal position has the 'relatively new' information focus for the utterance. It can be seen as the informational highlight of the sentence. Therefore, one would expect that in sentences with OSV order, subjects would be in focus. In sentences with SOV order, subjects are not in focus. This is precisely what we find in conversation. Furthermore, given the pragmatics of these orders, each one is selected and used by speakers in different speech genres or registers for different speech acts. OSV with the agent in focus is used in a variety of speech acts: making requests, teasing, tattling, and in arguments concerning who shall perform a certain action, among others. SOV utterances, with the subject not in the focused position, is used when announcing or reporting an action, in narratives and stories, or when the speaker is focusing on or contrasting objects. Let us examine utterances taken from family interactions in order to see more clearly the pragmatics of word order in Kaluli.

The first example is OSV with the speaker as agent. The context of this utterance is as follows: one person has requested a cucumber, using OSV. A second person, also wanting the cucumber, is challenging the claim. She says,

- 1) yagan -ɔ nisa diɔl I (not you) take the cucumber.
cucumber abs I take

To compare the pragmatics of this word order across agents, let us look at an OSV utterance where the speaker is referring to a third person as agent. The following example is also taken from a family interaction. A group of children are eating salt, a prized commodity. Abi, a 3-year-old boy, is taking more than his share. His older sister, tattling on him, calls out to her mother,

- 2) solu -wɔ Abi -ye nɛlab Abi keeps eating salt.
salt abs erg eat

Here the subject, Abi, is in focus; the issue concerns who is eating the salt. The speaker uses OSV order since she is focusing on the agent as an issue. Here the speaker wants the listener to do something or say something to the agent, since the agent is problematic.

Let us next examine SOV utterances and their pragmatic force in discourse. As was mentioned, in this word order the agent is not in focus. Speech acts used with SOV include reports and announcements of action. Example 3 is typical of an SOV utterance when the speaker is agent. A mother is sitting with her child. Getting up, she says to him,

- 3) ne de gilimɛnigo I am going to light a fire.
I fire light

She is reporting her action and does not expect the listener to do anything about what she has said. In this SOV utterance, the agent is not in focus, and is placed in sentence initial position.

In example 4 the agent is a third person. The context is as follows: Abi's older sister sees him drinking dirty water. She calls to her mother to inform her,

4) Abi -yɔ hɔn mogago -wɔ nab Abi drinks bad water.
 N water bad N eat

It is all right for Abi to drink, but not dirty water. The object upon which he is acting is problematic, in focus, and in this utterance it is placed directly in front of the verb, SOV.

In these four examples we can see how the pragmatic concerns of the speaker are reflected in the way in which the elements of the utterance are arranged, the word order. Pragmatic concerns and context determine the word order that an individual speaker selects. In turn, word order selection communicates the concerns of the speaker to the listener.

In Kaluli, however, once a word order is chosen, a corresponding case system is called into operation. Next I will describe the concomitant case systems for each of the 2 word orders.

Given the fact that transitive sentences have two nouns, languages provide ways to signal which is agent and which is object. There are several ways to do this. Casemarking on nouns is one way. Kaluli uses two casemarking systems, each related to word order. OSV follows an ergative casemarking system. SOV follows both an ergative and a neutral casemarking system. The selection of one or the other depends on the types of nouns used to encode agent and object.

Let us look at the OSV word order and the ergative paradigm first. In an ergative system, the agents of transitive verbs (such as give, hit and eat) are "treated differently" from the subjects of intransitive verbs (such as come, go). The objects of transitive verbs are treated the same as the subjects of intransitive verbs. In Kaluli, casemarking on all nouns in OSV (third person agent) is realized as follows:

nominal casemarking - ergative/absolutive

-ɛ erg (Agents of transitive verbs)
 -ɔ abs (Subjects of intransitive verbs)
 -ɔ abs (Objects of transitive verbs)

phonologically conditioned alternation -ɛ/-yɛ/-wɛ -ɔ/-yɔ/-wɔ

As in many other non-Austronesian ergative languages, only full nouns, that is proper and common nouns, and deictics and demonstratives that refer to animate agents, receive case marking. Pronominals do not receive casemarking suffixes; instead they change form completely. Example 2 above illustrates the ergative and the absolutive casemarkers and how they are used in OSV utterances with third person nominal agents. The ergative marker -yɛ is OBLIGATORY on the agent (Abi) which is in preverbal position. The absolutive marker -wɔ is attached to the object, salt.

Compare this to example 4, SOV (third person agent). Notice that there is no ergative casemarker on the agent, again Abi. Instead, most third person SOV utterances are marked with neutral case (-ɔ) on either or both nouns as follows:

nominal casemarking - neutral

- ɔ N (Agents of transitive verbs)
- ɔ N (Subjects of intransitive verbs)
- ɔ N (Objects of transitive verbs)

phonologically conditioned alternation -ɔ/-yɔ/-wɔ

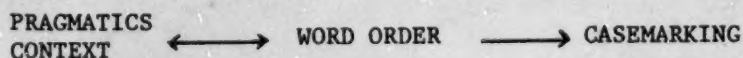
The neutral casemarking is the "unmarked form," identical to the absolutive and the form given as a citation form in elicitation. In casual or fast speech, such as is commonly spoken in family interactions, these neutral casemarkers are often omitted. This is consistent in both adults' speech to children and adults' speech to each other. While most SOV utterances follow a neutral case paradigm, there is one exception which is related to the types of nouns representing agent and object. Table A displays the rules of selection in SOV utterances.

Table A		Agent	Object	Transitive Verb
A.	proper name kin term	+N	animate/inanimate noun, pronoun, demonstrative deictic	+N
B.	animate noun pronoun	+N	proper name/kin term, animate/inanimate noun, pronoun, deictic, dem.	+N
C.	proper name kin term	+erg	proper name kin term	+abs

In conditions A and B, the neutral forms can be used on both nouns, as in example 4. Condition C is the exception. When both agent and object are expressed by proper nouns (names of kin terms) in this context of maximum ambiguity in the animacy hierarchy, the ergative paradigm is² used to indicate which potential agent is in fact controlling the action. The ergative marker grammatically disambiguates the function of each noun in the utterance. Thus we have clear evidence that the ergative marker is not simply a focusing device, since it is possible to have an agent 'out of focus,' with the ergative marker indicating that it is the agent. In fact, in condition C, it is obligatory. Example 5 illustrates this.

- 5) Abi -ye Meli -yɔ sɔnɔ Abi hit Meli.
erg abs hit

To summarize the word order/casemarking relationship, in OSV (third person agent), the ergative marker is obligatory. In SOV it must not be used on sentence initial agents, or it is incorrect, except in one special condition, which is maximally ambiguous in terms of the animacy hierarchy. This diagram summarizes the relationship between pragmatics/context, word order and casemarking in Kaluli.



Pragmatics and context mutually interact with word order determining which order communicates the speaker's intentions, and casemarking is determined by word order.

Let us look at a piece of discourse which illustrates how word order is used by two participants in an interaction. In addition, we can see how appropriate casemarking follows on third person agents. In example 6 (from sample v) the participants are a mother and her little girl, Meli, age 29 months. Meli is wearing a pubic cover like those worn by little boys. Her mother wants her to wear a skirt.

In line 1 mother says, "Put on a skirt. Give up this pubic cover (pc)." Notice that in both utterances the objects, 'skirt' and 'pubic cover,' are directly before the verb and the subject is deleted. Meli's response (line 2) is "no, (I) will wear the pubic cover." The object, pubic cover, again is in preverbal position, indicating it is the issue in contrast. Information indicating that the subject is the speaker is cross-referenced in the verb. The agent (I) which is not in focus, is deleted, a pattern common to both adult and child speakers. Meli's words are met with a clarification request from her mother. She responds (line 6) "I will wear the pubic cover," this time adding the subject pronoun that had been previously deleted, to the left side, keeping the object in focus in preverbal position. For Meli the issue concerns the object, the pubic cover as opposed to the skirt. Meli and the other children as well rarely inserted an additional element (in this example, the subject pronoun) between the verb and the element in preverbal position after clarification requests or repetitions of their own utterances (self-expansions). In line 7 Meli's mother restates her position, that Meli should wear a skirt, contrasting 'skirt' to Meli's preferred 'pubic cover.' She introduces a new topic in referring to Meli's brother Seligiwo (marked S), pointing out that he wears a pubic cover. Here the focus is on the agent, Seligiwo, in preverbal position and marked with the obligatory ergative marker. Meli maintains her position and word order throughout. (A more sophisticated speaker at this point could have used OSV order putting 'I' agent in preverbal position to contrast who wears the pubic cover.) Her mother asks (line 9) "Are you a boy?!" and Meli simply restates her position. Her mother adds (line 11) "you wear skirts" (object in focus, OV), "skirt belts you wear" (OSV), contrasting 'you' with her earlier assertion about Meli's brother. This interaction illustrates the relationship between word order and the pragmatic concerns that are expressed through it. As with any linguistic form/meaning relationship, word order is socially motivated by what each of the participants wants in the situation. It is used to express concerns and issues of importance for each speaker.

Before describing the developmental progression of the acquisition of word order conventions and concomitant casemarking, I shall discuss some general findings of this study. First, children used word order pragmatically appropriately before they used grammatical casemarking correctly. There is strong evidence from earlier 2-word utterances that children were encoding Agent + verb when the agent was in focus. When it was not in focus they encoded Object + verb.

- (6) Mo: 1. kEn kama, dabale we Indesa
skirt put on pc this give up
Put on the skirt, give up this pc.

a!/
no! /

4.

no! dabale * dabale kemeno -we
no pc pc wear emp
no! I will wear the pc!

6.

ne dabale kEmEno/
I pc wear
I will wear the pc.

dabale S- we kɛlan
erg wear
S. wears the pc.

ne dabale kemeno/
I pc wear

10.

ne dabale kEmEno/

11. kən kɛlan, dabul-ɔ̌ gi kɛlan
skirt wear belts you wear
you wear skirts, you wear belts

12.

ne dabale kεmeno/

Second, only verb-final utterances (SV, OV, OSV and SOV) were produced by Kaluli children, keeping with the adult model of verb-final syntax. In addition, like adults in similar contexts, children produced OSV utterances with greater frequency than SOV, not surprising since OSV utterances are used in arguments, requests, teasing and tattling, all part of family interaction.

Third, Kaluli children did not overgeneralize the ergative marker to subjects of intransitive verbs. In other words, they keep the two verb categories which are important in an ergative language, transitive and intransitive, distinct.³ For example, when producing an utterance with an intransitive verb such as 'mother goes' children consistently used the absolutive casemarker (or none) on 'mother.' They never marked it with the ergative. This was different from the way they would mark 'mother' in an OSV sentence such as 'mother hits the dog.' This suggests that Kaluli children do not have a general notion of agent/actor which is applied across verb categories. Children did produce a sufficient number of intransitive verbs with both proper and common nouns to which they could have added the ergative marker but didn't. In addition to not adding the ergative marker to subjects of intransitive verbs, children never marked direct objects with this 'marked' form.⁴

To analyze the relationship between word order and casemarking in children's spontaneous transitive declarative utterances when they were referring to a third person agent, we will look at utterances which expressed a subject, object, and verb, but not necessarily in that order.

1. Acquisition of the ergative casemarker in OSV order. Recall that in adult speech this casemarker is obligatory in OSV for marking the agent. Once children begin producing 3-element utterances with third person nominal agents, they go through 2 stages in acquiring the obligatory casemarker. First, they leave it out; the agent is expressed before the verb with no casemarking at all. Next, they add it in obligatory contexts. Example 7 (Wanu at 27 mos. 3 wks., sample iv) illustrates the first stage. Wanu had been playing with and talking about a bag of salt. He says to his mother,

- 7) *solu- wə Babi-Ø dimi-ləb/ Bambi gave the salt.
 salt give evid

The agent, Bambi, is in focus and correctly placed before the verb. However, the obligatory ergative marker is absent. The agent of the verb 'give' usually appeared in preverbal position because social and cultural conventions dictated that the agent--the 'giver'--is focused on and made explicit in any type of transaction. When children omitted an obligatory ergative marker, mothers often told them to say it again properly after providing the correct model for them to imitate.

Meli, at 26 months, also produced utterances with this type of error. Example 8 (sample iii) illustrates: Meli had been requesting salt from her mother, who wasn't responding. Finally after looking and not finding it she says to her mother (referring to her cousin, named Mama.

- 8) *solu-wə Mama-Ø diabe/ Mama took the salt.
 salt take

Meli had already mentioned the salt, and the issue in focus was the agent, Mama. The word order, as in ex.7, is pragmatically appropriate, determined by the discourse and context history, but the obligatory grammatical casemarker is missing.

After a period of producing OSV without agentive (ergative) case-marking, the 3 children started producing OSV third person utterances with the ergative casemarker on the agent. Children used this word order with its concomitant case system correctly to contrast agents within their own turns as well as across speaker turns. Examples 9 and 10 show how children were using word order and ergative casemarking correctly. In example 9 Meli (27 mos. 3 wks) is taking one of my sandals and her brother Seligiwo (S) is taking the other one. She speaks to her mother:

- | | |
|----------------------|---------------------|
| 9) nodo-wɔ nisa diɔl | nodo-wɔ S-wɛ diab/ |
| one side I take | erg take |
| <u>I</u> take one, | <u>S</u> takes one. |

Notice that Meli is contrasting agents, I and Seligiwo, within her own turn, using OSV order and marking the third person agent with the obligatory marker. Children also used OSV word order when contrasting agents across speaker turns which was a common strategy, important in arguments. In example 10 Wanu (31 mos.) counters his sister's claim that D had given a bag (OSV).

- | | |
|----------------------|---------------------|
| 10) we B-ye dimiabe/ | <u>B</u> gave this. |
| this erg give | |

This illustrates the child's developing skill in constructing pragmatically appropriate and grammatically correct arguments. The same effect could have been accomplished with stress in English; Kaluli instead uses word order.

One might assume from these examples that children are marking only proper nouns (names, kin terms) with the ergative marker when they appear before the verb. This is not the case. Children marked a variety of animate agents, referring to them with common nouns as well as deictics and demonstratives. Example 11 is from Abi at 33 months, 2 weeks. He had been talking about his missing knife, and says:

- | | |
|------------------------|--------------------------|
| 11) ɛnɔ num -ɛ afa di/ | <u>Someone</u> stole it. |
| it someone erg steal | |

Thus far we have seen examples where the child initially omits the ergative marker and then puts it on agents correctly. Interestingly, in only one example in the entire corpus of OSV third person (77 tokens) is the absolutive casemarker used incorrectly on an agent in the position of focus, that is, before the verb.

2. Development of children's SOV utterances with third person nominal agents. Recall that for adult speech, SOV order uses neutral casemarking on both nouns, in most contexts--that is, both nouns are marked identically, and word order signals function. In casual speech one or both of these neutral, unmarked case suffixes may often be omitted. Only when both nouns are expressed as proper nouns must ergative marking be used with sentence-initial agent. To mark agents in any other way is incorrect.

Children essentially go through 3 stages once they start producing 3-element SOV utterances. First, agents are not marked at all; then the ergative marker is added to sentence-initial agents, producing incorrect utterances. Next the ergative marker is restricted to OSV order, and only those infrequent occurrences of the special condition. In example 12 Abi (25 mos., 1 wk) is watching me eat pandanus, a tropical vegetable, and announces to his mother,

- 12) Babi oga nab/ Bambi eats pandanus.
pandanus eat

This is the correct word order since he is reporting an event. Neither noun is marked. Wanu and Meli produced similar constructions.

For 2 of the 3 children, within a month of producing correctly marked sentence-medial agents there was an overgeneralization of the ergative marker to agents in sentence initial position. Wanu did not follow this pattern exactly, but he was using the ergative marker with 2-element (SV) constructions, which might have influenced his incorrect extension of the ergative marker in sentence-initial position. None of the children produced utterances in which both nouns were proper nouns at this time. Instead, all sentence-initial agents were being marked incorrectly. All three children produced this type of error. Example 13 is from Wanu at 29 months. His father is taking salt out of a box. Wanu says to his sister,

- 13) *do -we solu diab/ My father takes salt.
my father erg salt take

The word order is correct since he is reporting his father's action. However, the ergative casemarker is on the agent in sentence initial position, followed by the object, and this is incorrect.⁵

Meli (31 mos., 2 wks), watching her mother prepare bananas for cooking, a common event, says to her cousin,

- 14) *no -we magu sofɛnigab/ My mother is about to cook
my mother erg banana cook bananas.

Again, word order is correct, but casemarking has been incorrectly over-applied to the agent. Mothers did not correct the children when they used the ergative on sentence initial agents as they had when it was omitted.

As with OSV, SOV orders were pragmatically correct except for very few instances, two of which were related to a specific discourse context--children's difficulty in answering who (agent) questions, which are structured Obj + who + Vb. The answer must follow the same order, and the information answering 'who' must have the ergative marker.

The exceptional condition in SOV (2 proper nouns) which used the ergative paradigm was rare in both adult and child speech. It could not have been the basis upon which children were overgeneralizing in their production of incorrect sentence initial, ergatively marked agents. In fact, given the 40 SOV utterances produced by the three children, only one such utterance was produced in the child data, by Wanu at 32 months, 2 weeks, and it was correctly marked.

Table B summarizes the acquisition patterns for the 3 children for casemarking agents in both OSV and SOV orders. Ages in months and weeks.

Table B.

		<u>OS^{-ε} V (A & B)</u>	<u>S^{-σ} OV</u>
Ab1	1 11	none	1 11
27.2	111	OS ^{-ε} V	111
	↓	↓	1v
	viii		v
			vi - viii
Me11	1 11	none	1 11
26.	111	OS ^φ V	111
27.3	1v	OS ^{-ε} V	1v
	vii	↓	v
	v		vii
	vi		vi
	viii		viii
Wanu	1 11 111	none	1 11 111
27.3	1v	*OS ^φ V	1v
29.	v		v
	vi	OS ^{-ε} V	vi
	vii		vii

Wanu and Abi produced SOV (third person) before OSV (third person). Meli produced them simultaneously. By 32 months all three were consistently controlling both word order and the casemarking system. These Kaluli children used word order pragmatically appropriately before using casemarking correctly. Ergative casemarking was used independent of word order to mark transitive Agent. All three overextended its use in SOV utterances, producing grammatically incorrect utterances before learning to restrict its use to the correct word order, OSV. However, the ergative marker was never extended to the subjects of intransitive verbs, keeping separate the transitive/intransitive verb distinction important in an ergative language. This suggests that these children do not have a general notion of actor/agent.

One may speculate as to why the acquisition of pragmatic usage in word order precedes grammatical casemarking. When word order serves such marked pragmatic functions, it is more salient in that alternative word orders are more obvious than the presence or absence of a 1-syllable casemarker. Any language (such as Kaluli) which uses word order for pragmatic purposes will have an interaction between discourse and syntax. These data suggest that children from an early age are sensitive to that interaction and the meaning conveyed by different word orders. However, to become competent speakers, children must use the morphological devices of their language as well. This ergative language provides a natural experiment on how children acquire a linguistic system which marks agents. We see that the acquisition of agent marking is just as salient and reasonable as the early acquisition of accusative markers in a nominative/accusative language.

Notes

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2. See R. M. W. Dixon, "Ergativity," *Language* 55, 1 (1979), 85; and B. Comrie, "Ergativity," in *Syntactic Typology*, ed. W. Lehmann (Austin: Univ. of Texas Press, 1978).
3. Cliff Pye investigating the acquisition of Quiché (Mayan), a VOS ergative language, found no instances where a child used an ergative marker for the subject of an intransitive verb. Personal communication, May 1979.
4. In spite of the fact that subject-verb agreement follows a nominative/accusative paradigm.
5. The ergative marker is morphologically identical to the genitive, which is common in many ergative languages. For a detailed discussion see Bambi B. Schieffelin, "How Kaluli Children Learn What to Say, What to Do, and How to Feel," (Ph.D. dissertation, Columbia Univ., 1979), ch. 5.